MIAMI-DADE COUNTY
DEPARTMENT OF PERMITTING, ENVIRONMENT, AND REGULATORY AFFAIRS (PERA)
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
11805 SW 26 Street, Room 208
Miami, Florida 33175-2474
T (786) 315-2590 F (786) 315-2599
www.miamidade.gov/pera/

NOTICE OF ACCEPTANCE (NOA)

Marvin Windows and Doors
Highway 11 West (P.O. Box 100)
Warroad, MN 56763-0100

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Series "StormPlus IZ4 Clad Casemaster Casement" Aluminum Clad Wood Casement Window - L.M.I.

APPROVAL DOCUMENT: Drawing No. **1535**, titled "Clad Casemaster Casement StormPlus IZ4", sheets 1 through 9 of 9, dated 04/03/08, with revision A1 dated 10/14/11, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact Resistant

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises NOA # 08-1014.06** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Manuel Perez, P.E.**

MIAMI-DADE COUNTY APPROVED

NOA No. 11-1021.12
Expiration Date: March 04, 2014
Approval Date: December 22, 2011

Marvin Windows and Doors

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections.
2. Drawing No. **1535**, titled "Clad Casemaster Casement StormPlus IZ4", sheets 1 through 9 of 9, dated 04/03/08, with revision A1 dated 10/14/11, prepared by W. W. Schaefer Engineering & Consulting, P.A, signed and sealed by Warren W. Schaefer, P.E.

B. TESTS

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94

   along with marked-up drawings and installation diagram of a StormPlus IZ4 wood casement window, prepared by Architectural Testing, Inc., Test Report No. **ATI-77675.01-201-18**, dated 06/16/08, and addendum letter dated 01/09/09, all signed and sealed by Joseph A. Reed, P.E.
   (Submitted under NOA# 08-1014.06)
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94

   along with marked-up drawings and installation diagram of "StormPlus IZ4 wood casement window, prepared by Architectural Testing, Inc., Test Report No. **ATI-77676.01-201-18**, dated 08/05/08, signed and sealed by Joseph A. Reed, P.E.
   ((Submitted under NOA# 08-1014.06 for reference only)
3. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94
   2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94
   3) Water Resistance Test, per FBC, TAS 202-94
   4) Large Missile Impact Test per FBC, TAS 201-94
   5) Cyclic Wind Pressure Loading per FBC, TAS 203-94
   6) Forced Entry Test, per FBC 2411 3.2.1, TAS 202-94

   along with marked-up drawings and installation diagram of "StormPlus IZ4 wood awning window, prepared by Architectural Testing, Inc., Test Report No. **ATI-77779.01-201-18**, dated 12/20/07, signed and sealed by Joseph A. Reed, P.E.
   (Submitted under NOA# 08-1014.06 for reference only)

Manuel Perez, P.E
Product Control Examiner
NOA No. 11-1021.12
Expiration Date: March 04, 2014
Approval Date: December 22, 2011

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

C. CALCULATIONS

1. Anchor verification calculations and structural analysis, complying with FBC-2007 and FBC-2010, prepared by prepared by W. W. Schaefer Engineering & Consulting, P.A., dated 08/28/08, 12/02/08, and updated on10/14/11, signed and sealed by Warren W. Schaefer, P.E.
2. Glazing complies with ASTM E1300-04

D. QUALITY ASSURANCE

1. Miami-Dade Department of Permitting, Environment, and Regulatory Affairs (PERA).

E. MATERIAL CERTIFICATIONS

1. Notice of Acceptance No. **10–0413.04** issued to E.I. DuPont DeNemours & Co., Inc. for their "**DuPont Sentry Glass® Interlayer**" dated 05/26/10, expiring on 01/14/12.

F. STATEMENTS

1. Statement letter of conformance complying with the FBC-2007 and FBC-2010, dated October 14, 2011, signed and sealed by Warren W. Schaefer, P.E.
2. Statement letter of no financial interest, dated October 14, 2011, signed and sealed by Warren W. Schaefer, P.E.
3. Laboratory compliance letter for Test Report No. **ATI 77675.01-201-18** issued by Architectural Testing, Inc., dated 09/25/08, signed and sealed by Joseph A. Reed, P.E.
4. Laboratory compliance letter for Test Report No. **ATI 77676.01-201-18** issued by Architectural Testing, Inc., dated 09/26/08, signed and sealed by Joseph A. Reed, P.E.
5. Test Proposal **#07-3071** issued by BCCO dated 06/21/07, revised on 07/02/07, signed by Manuel Perez, P.E.

G. OTHERS

1. Notice of Acceptance No. **08-1014.06**, issued to Marvin Windows and Doors for their Series "StormPlus IZ4 Casemaster" Aluminum Clad Wood Casement Window – L.M.I., approved on 03/04/09 and expiring on 03/04/14.

Manuel Perez, P.E.
Product Control Examiner
NOA No. 11-1021.12
Expiration Date: March 04, 2014
Approval Date: December 22, 2011

GENERAL NOTES:

1. THESE WINDOW SYSTEMS HAVE BEEN TESTED, ANALYZED & APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S).
2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE.
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
4. THE DETAILS & SPECIFICATIONS SHOWN HEREIN REPRESENT THE PRODUCTS TESTED & PROPOSED FOR WATER, AIR, IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH THE FLORIDA BUILDING CODE PROTOCALS TAS-201, 202 & 203 FOR LARGE MISSILE IMPACT WINDOWS.
5. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
6. IMPACT SHUTTERS ARE NOT REQUIRED WITH THESE WINDOWS.
7. ALL ANCHORS SECURING WINDOW FRAME TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
8. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF Kd = 0.85 MAY BE APPLIED WHEN USED PER THE ASCE 7 STANDARD.
9. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE CERTIFICATION OF THIS PRODUCT. WIND LOAD DURATION FACTOR Cd = 1.6 WAS USED FOR WOOD SCREW ANALYSIS ONLY.
10. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE CHAPTER 20.
11. All WOOD MEMBERS OF WINDOWS THAT MAY POSSIBLY COME INTO CONTACT WITH MASONRY OR CONCRETE SUBSTRATES, ARE SUBJECT TO MOISTURE &/OR ARE SUBJECT TO THE OUTSIDE ENVIRONMENT SHALL BE OF AN APPROVED DURABLE SPECIES OR BE TREATED IN AN APPROVED METHOD WITH AN APPROVED PRESERVATIVE PER FBC SECTION 2326.

SNUBBER REQUIREMENTS TABLE
(RECTANGULAR WINDOWS)

MAX. FRAME HEIGHT	MIN. NO. OF SNUBBERS
71 1/8"	3
47 3/8"	2
23 5/8"	1

LOCK REQUIREMENTS TABLE
(RECTANGULAR WINDOWS)

MAX. FRAME HEIGHT	MIN. NO. OF LOCKS
71 1/8"	3
47 3/8"	2

CORNER CONSTRUCTION (STANDARD RECTANGULAR WINDOWS)

FRAME CORNERS: THE SIDE WOOD MEMBERS ARE BUTTED TO THE HEAD & SILL MEMBERS, SECURED WITH THREE(3) GS16 X 1 1/2" STAPLES THROUGH THE HEAD & SILL INTO THE JAMB & ONE(1) 14 GA. 7/16 X 2" STAPLE THROUGH THE JAMB INTO THE HEAD & SILL & SEALED WITH SEALANT.
FRAME CLADDING CORNERS: CLADDING IS MITERED TOGETHER & JOINED WITH A CORNER KEY PART NO. 37A.
SASH CORNERS: SASH MEMBERS ARE MORTISED & TENONED AND SECURED WITH ONE(1) GS16 X 1 1/8" STAPLE.
SASH CALADDING CORNERS: CLADDING IS MITERED TOGETHER & JOINED WITH A CORNER KEY PART NO. 37B.

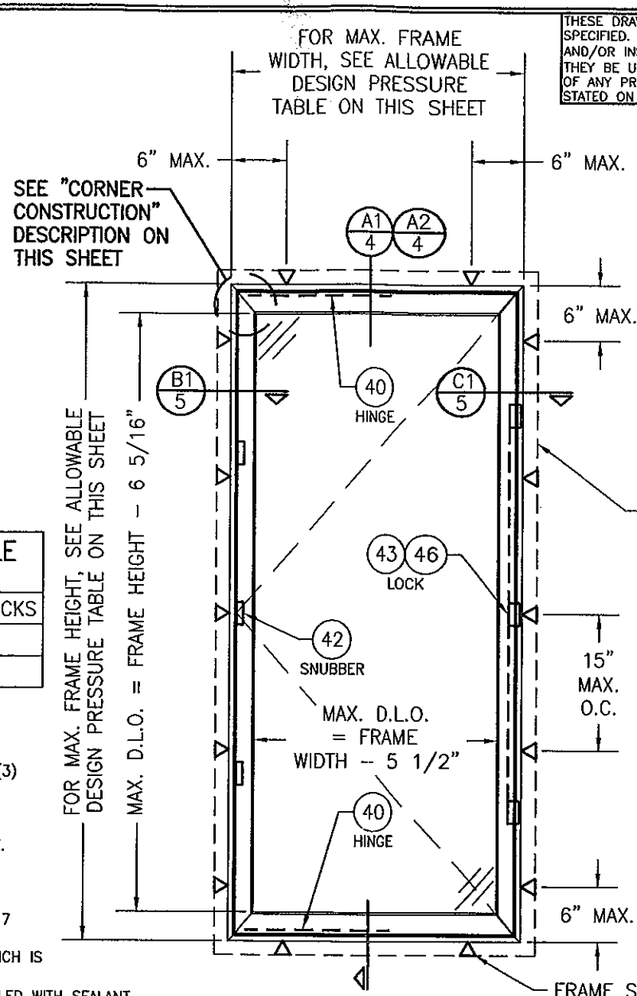
CORNER CONSTRUCTION (SHAPED WINDOWS)

FRAME CORNERS: THE SIDE WOOD MEMBERS ARE BUTTED TO THE HEAD & SILL MEMBERS & SECURED WITH NO. 7 X 2" SCREWS (3 AT SQUARE CORNERS; 4 AT SHAPED CORNERS) AND SEALED WITH SEALANT.
FRAME CLADDING CORNERS: CLADDING IS MITERED TOGETHER & JOINED WITH A CORNER KEY PART NO. 37C WHICH IS SCREWED CLAD TO KEY WITH 4 NO. 7 X 1/2" SCREWS (2 PER KEY LEG).
SASH CORNERS: SASH MEMBERS ARE BUTTED TOGETHER, JOINED WITH 2 NO. 7 X 2" TRIM HEAD SCREWS & SEALED WITH SEALANT.
SASH CALADDING CORNERS: MITER CUT, BUTTED TOGETHER AND SEALED WITH SEALANT

FRAME ANCHOR REQUIREMENTS TABLE

OPENING TYPE (SUBSTRATE)	FRAME/CLIP TO OPENING FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
FRAME SHEAR SCREWS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 10 SMS OR WOOD SCREW	1 1/4"	3/4"
MIN. 18 GA. 33 KSI METAL STUD	NO. 10 GR. 5 SELF TAP/DRILLING SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	NO. 10 GR. 5 SELF TAP/DRILLING SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	NO. 10 GR. 5 SELF TAP/DRILLING SCREW	FULL	1/2"
C-90 CMU/2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
INSTALLATION CLIP SCREWS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 8 X 1 1/2" SMS	1 3/8"	1/2"
MIN. 1/8" THK A36 STEEL	NO. 8 GR. 5 SELF TAP/DRILLING SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	NO. 8 GR. 5 SELF TAP/DRILLING SCREW	FULL	1/2"

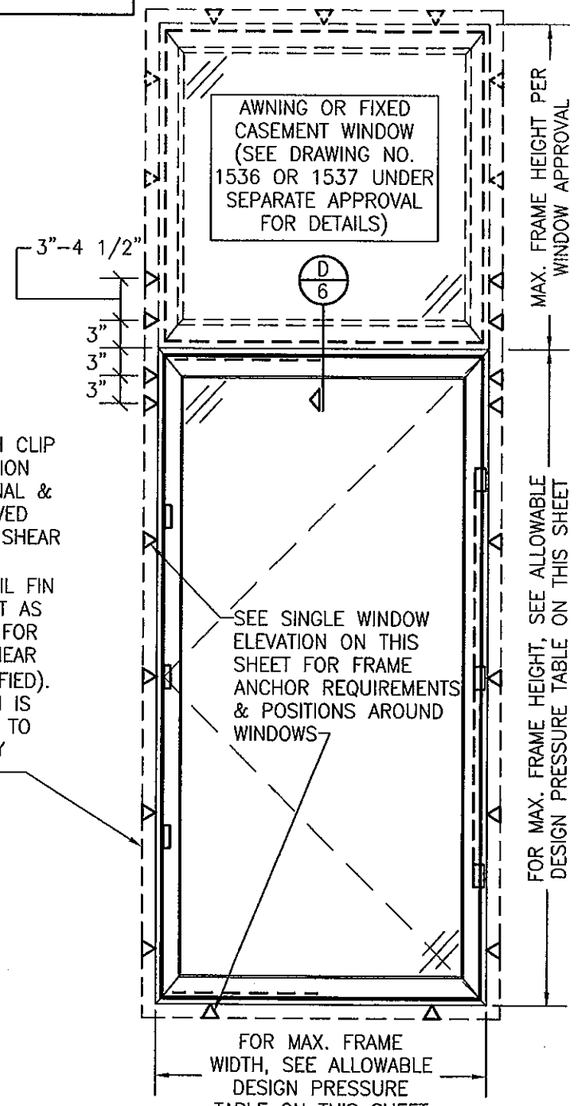
(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, ITW RAMSET/RED HEAD TAPCONS, HILTI KWIK-CON II OR POWERS RAWL TAPPER (HARDENED STEEL OR S.S.).



EXTERIOR ELEVATION
SINGLE RECTANGULAR CASEMENT WINDOW
SCALE: 3/4" = 1'-0"

NAILING FIN IS REQUIRED WITH CLIP MOUNT CONDITION AND IS OPTIONAL & MAY BE REMOVED FOR A FRAME SHEAR SCREW MOUNT CONDITION (NAIL FIN SHALL NOT ACT AS A SUBSTITUTE FOR THE FRAME SHEAR SCREWS SPECIFIED). NOTE: NAIL FIN IS NOT REQUIRED TO BE SEPERATELY ANCHORED

FRAME SHEAR SCREW OR INSTALLATION CLIP WHERE SHOWN. SEE "FRAME ANCHOR REQUIREMENTS TABLE" ON THIS SHEET FOR SCREW REQUIREMENTS.



EXTERIOR ELEVATION
SINGLE RECTANGULAR CASEMENT WINDOW WITH TRANSOM
SCALE: 3/4" = 1'-0"
(FOR ALL DETAIL NOT SHOWN, SEE SINGLE WINDOW ELEVATION)

ALLOWABLE DESIGN PRESSURE

(1) (SINGLE RECTANGULAR WINDOW & SINGLE WINDOW WITH TRANSOM)

MAXIMUM FRAME WIDTH	MAXIMUM FRAME HEIGHT	ALLOWABLE PRESSURE
28"	71 1/8"	+70/-85 PSF
32"	71 1/8"	+70/-70 PSF
36"	59 1/8"	+70/-70 PSF

1. WITH TRANSOM UNITS, THE LESSER OF THE PRESSURE SHOWN IN THIS TABLE OR THAT SPECIFIED IN THE INDIVIDUAL FIXED OR AWNING WINDOW APPROVAL SHALL CONTROL AS THE ALLOWABLE FOR THE OVERALL UNIT.

THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date March 5, 2014
By
Miami-Dade Product Control

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=16	DATE: 04/03/08

NO.	REVISION DESCRIPTION	BY	DATE
A1	UPDATE TO CURRENT STANDARDS	W.R.M.	10/14/11

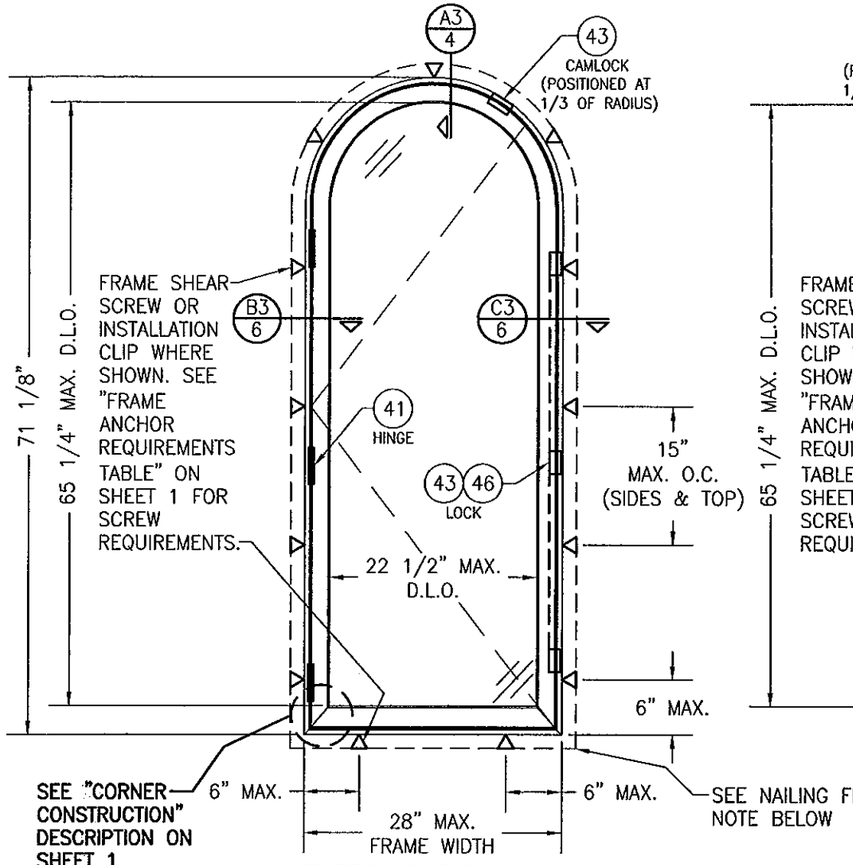
DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

MANUFACTURER
MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
800-346-5044

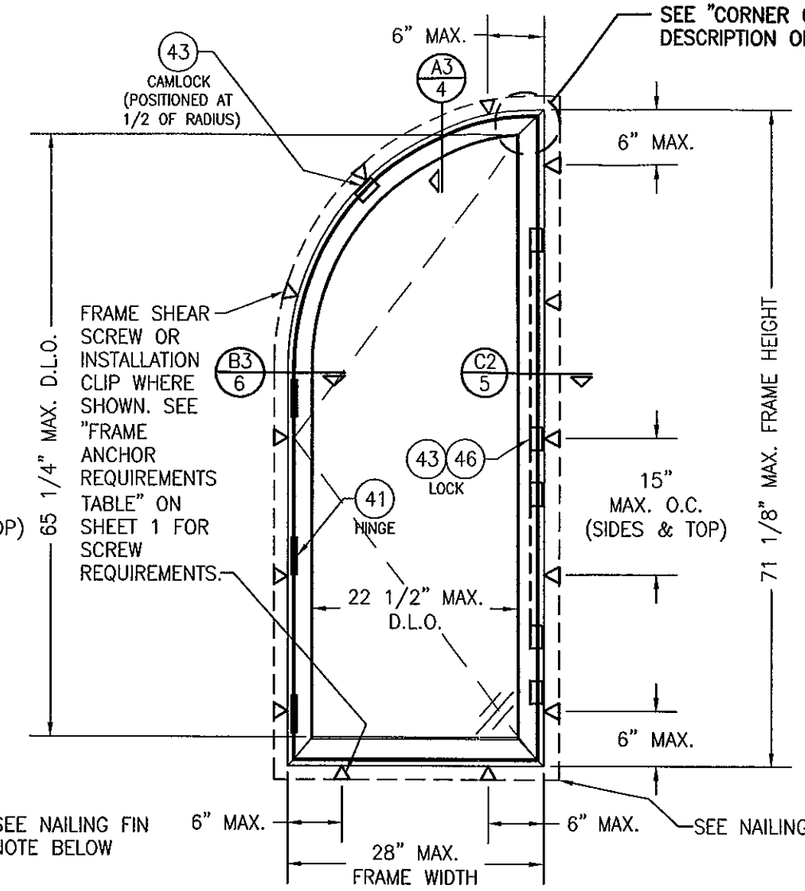
CONSULTANTS
WILLIAM W. SCHAEFER ENGINEERING CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

WILLIAM W. SCHAEFER
STATE OF FLORIDA
No. 44135
OCT. 14 2011
PROFESSIONAL ENGINEER

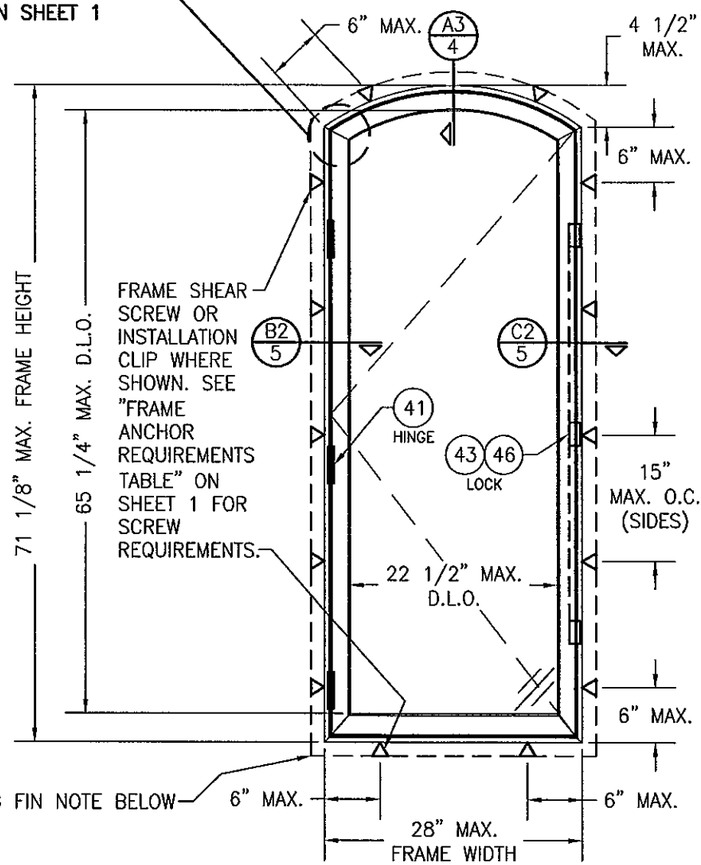
DRAWING NO.	REV.
1535	A
SHEET NO. 1 OF 9	



EXTERIOR ELEVATION
SINGLE HALF ROUND CASEMENT WINDOW
SCALE: 3/4" = 1'-0"



EXTERIOR ELEVATION
SINGLE QUARTER ROUND CASEMENT WINDOW
SCALE: 3/4" = 1'-0"



EXTERIOR ELEVATION
SINGLE EYE BROW CASEMENT WINDOW
SCALE: 3/4" = 1'-0"

ALLOWABLE SHAPES
(IN ADDITION TO THOSE IN ELEVATIONS)

#1 IS SIMILAR TO HALF ROUND ELEVATION & MUST HAVE ADDITIONAL LOCK AT HEAD AS SHOWN.

#2 MUST HAVE AN ADDITIONAL LOCK AT EACH OF THE ANGLE LINES SHOWN

#3 IS SIMILAR TO QUARTER ROUND ELEVATION & MUST HAVE ADDITIONAL LOCK AT HEAD AS SHOWN.

#4 IS SIMILAR TO QUARTER ROUND ELEVATION & MUST HAVE ADDITIONAL LOCK AT HEAD AS SHOWN.

ALLOWABLE DESIGN PRESSURE (SINGLE SHAPED WINDOWS)
+70/−85 PSF

LOCK/HINGE REQUIREMENTS TABLE (SHAPED WINDOWS)		
MAX. FRAME HEIGHT	MIN. QUANTITY OF LOCKS	MIN. QUANTITY OF HINGES
71 1/8"	* 3	3
47 1/8"	* 2	2

* THE LOCKS SPECIFIED IN THIS TABLE ARE THOSE AT THE SIDES OF THE WINDOWS ONLY. AN ADDITIONAL LOCK IS REQUIRED AT THE RADIUS HEAD OF THOSE SHAPES SPECIFIED (SEE ELEVATIONS).

NAILING FIN NOTE:
NAILING FIN IS REQUIRED WITH CLIP MOUNT CONDITION AND IS OPTIONAL & MAY BE REMOVED FOR A FRAME SHEAR SCREW MOUNT CONDITION (NAIL FIN SHALL NOT ACT AS A SUBSTITUTE FOR THE FRAME SHEAR SCREWS SPECIFIED).
NOTE: NAIL FIN IS NOT REQUIRED TO BE SEPERATELY ANCHORED

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Manuel Perez
Miami Dade Product Control

WARREN W. SCHAEFER ★ ENGINEER ★ LICENSE No. 44135 ★ STATE OF FLORIDA ★ PROFESSIONAL ENGINEER

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=16	DATE: 04/03/08

NO.	REVISION DESCRIPTION	BY	DATE

MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
800-346-5044

MANUFACTURER

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

CERTIFICATION
OCT 14 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1535 | REV. A
SHEET NO. 2 OF 9

ALLOWABLE DESIGN PRESSURE TABLE (SIDE BY SIDE WINDOWS)

MAXIMUM FRAME HEIGHT (IN.)	MAXIMUM LOAD WIDTH (IN.)	ALLOWABLE PRESSURE (PSF) MULLION CONDITION "XX"	ALLOWABLE PRESSURE (PSF) MULLION CONDITION "XO"
71 1/8	52	–	+61.9/–61.9
	48	–	+67.1/–67.1
	46	–	+70.0/–70.0
	42	–	+70.0/–76.7
	37	–	+70.0/–85.0
	32	+70.0/–70.0	+70.0/–85.0
	28	+70.0/–80.0	+70.0/–85.0
	26	+70.0/–85.0	+70.0/–85.0
65 1/8	52	–	+70.0/–71.8
	49	–	+70.0/–71.8
	48	–	+70.0/–73.3
	46	–	+70.0/–76.4
	42	–	+70.0/–83.7
	40	–	+70.0/–85.0
	32	+70.0/–76.4	+70.0/–85.0
	28	+70.0/–85.0	+70.0/–85.0
59 1/8	54	–	+70.0/–80.7
	48	–	+70.0/–80.7
	46	–	+70.0/–84.2
	45	–	+70.0/–85.0
	36	+70.0/–74.9	+70.0/–85.0
	32	+70.0/–84.2	+70.0/–85.0
	31	+70.0/–85.0	+70.0/–85.0
53 1/8	54	–	+70.0/–85.0
	36	+70.0/–83.3	+70.0/–85.0
	35	+70.0/–85.0	+70.0/–85.0
47 1/8	54	–	+70.0/–85.0
	36	+70.0/–85.0	+70.0/–85.0

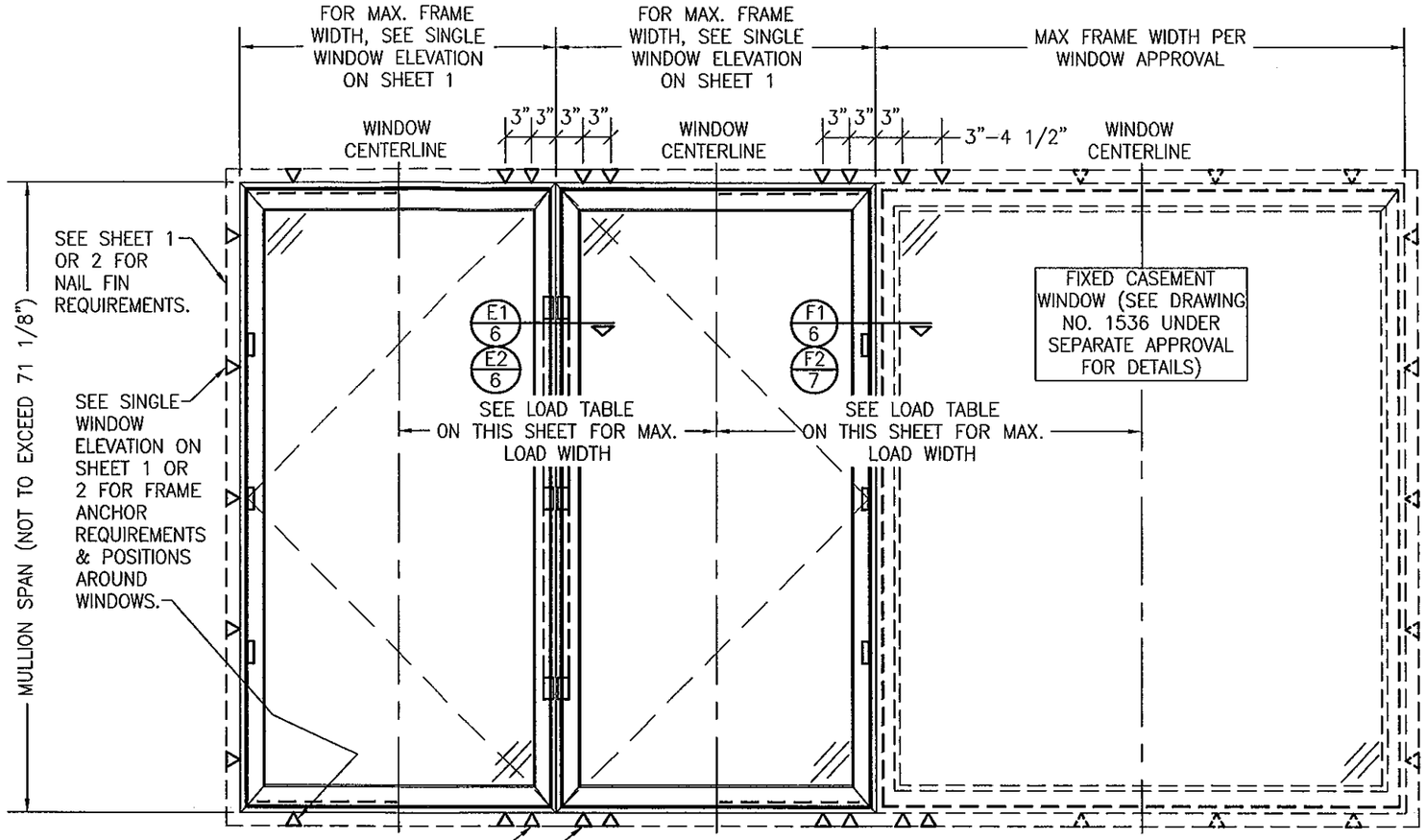
LESSER OF THE PRESSURE SHOWN IN THIS TABLE & THAT ALLOWED FOR THE INDIVIDUAL WINDOW SHALL CONTROL AS ALLOWABLE FOR THE OVERALL UNIT.

THE VALUES IN THIS TABLE APPLY TO BOTH BAR REINFORCED & NON–REINFORCED MULLION CONDITIONS.

ADD 3/8" TO LOAD WIDTH VALUES IN THIS TABLE WHEN 3/8" ALUMINUM REINFORCEMENT PLATE IS USED.

LOAD WIDTH IS THE DISTANCE BETWEEN THE WINDOW CENTERLINES.

"XX" = MULLION BETWEEN 2 OPERABLE WINDOWS.
"XO" = MULLION BETWEEN AN OPERABLE & FIXED WINDOW.



EXTERIOR ELEVATION
MULTIPLE CASEMENT/FIXED WINDOW

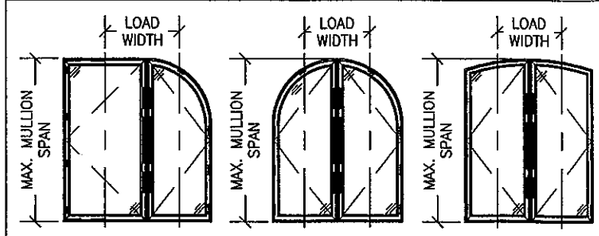
SCALE: 3/4" = 1'–0"

(RECTANGULAR WINDOW SHOWN, SHAPED WINOWS ALSO APPLY. SEE "APPROVED SHAPED MULLED CONDITIONS" TABLE ON THIS SHEET)

MULTIPLE UNIT NOTES:

1. FOR ALL DETAIL NOT SHOWN, SEE SINGLE WINDOW ELEVATION.
2. THERE IS NO LIMIT ON THE NUMBER OF WINDOWS THAT MAY BE COMBINED IN ONE DIRECTION INTO ONE OPENING PROVIDING THE OPENING IS DESIGNED TO SUPPORT ALL LOADS TRANSFERED FROM THE WINDOWS & THEIR MULLIONS.

APPROVED SHAPED MULLED CONDITIONS



ANGLED WINDOW SHAPES #3 & #4 ON SHEET 2 ALSO APPLY AND MAY REPLACE THE RADIUS WINDOWS SHOWN HERE.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Manuel Perez
Miami Dade Product Control

WARREN M. SCHAEFER LICENSE No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=16 | DATE: 04/03/08

NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE: CLAD CASEMASTER CASEMENT STORMPLUS IZ4

MANUFACTURER: MARVIN WINDOWS & DOORS, HIGHWAY 11; P.O. BOX 100, WARROAD, MN 56763, 800–346–5044

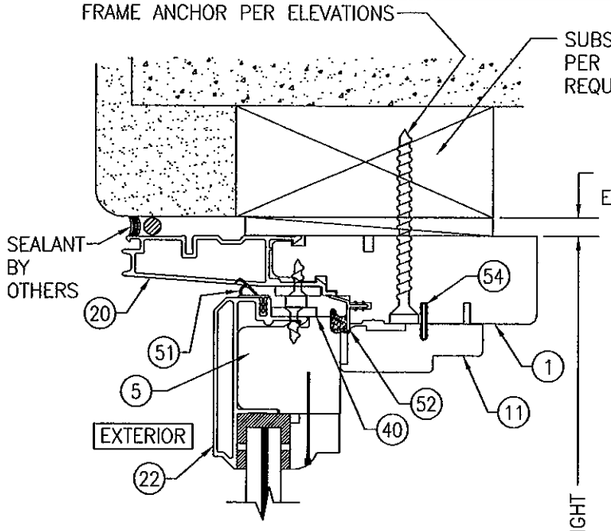
CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809), 7480 150TH COURT NORTH, PALM BEACH GARDENS, FL 33418, PHONE: 561–744–3424

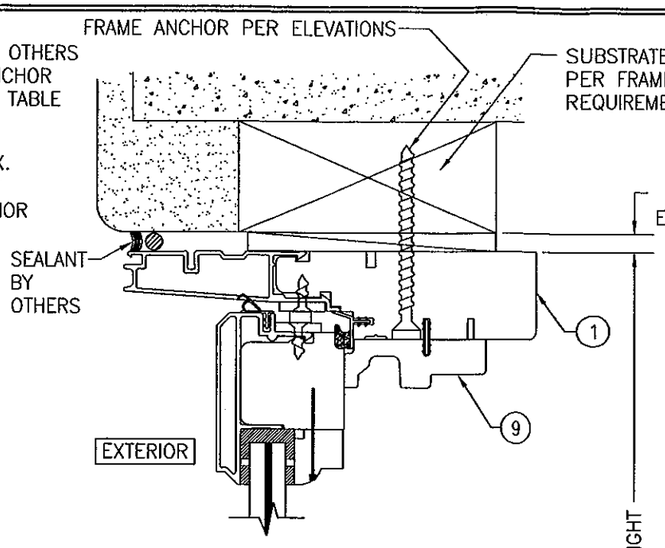
CERTIFICATION: OCT 14 2011

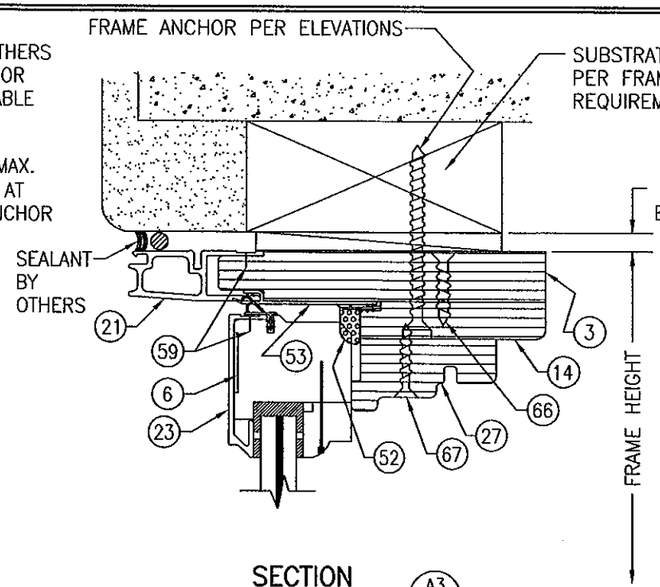
WARREN M. SCHAEFER, P.E. P.E. NO. 44135

DRAWING NO. 1535 | REV. A

SHEET NO. 3 OF 9

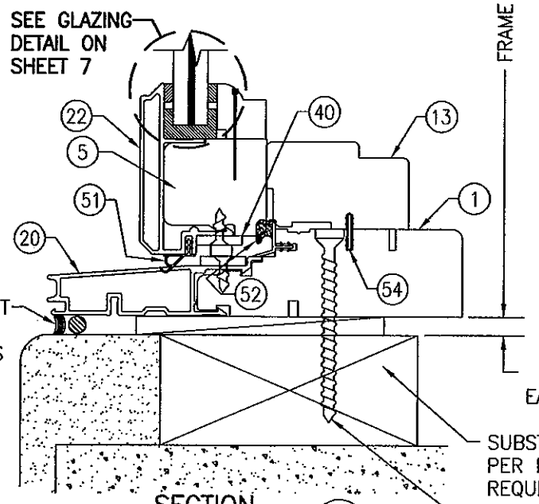




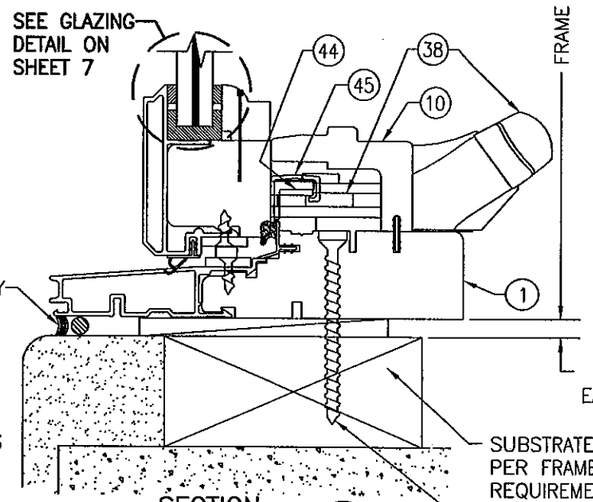


SECTION A3/4
SCALE: 1/2 FULL

FOR SILL DETAIL NOT SHOWN SEE SECTION A1/4 FOR PUSH/PULL OPERATOR HARDWARE CONDITION OR A2/4 FOR ROTO OPERATOR HARDWARE CONDITION



SECTION A1/4
SCALE: 1/2 FULL
(PUSH/PULL OPERATOR HARDWARE CONDITION)



SECTION A2/4
SCALE: 1/2 FULL
(ROTO OPERATOR HARDWARE CONDITION)
FOR DETAILS NOT SHOWN SEE SECTION A1/4

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date MARCH 4, 2014
By Manuel Perez
Miami Dade Product Control

WARREN W. SCHAEFER ★ PROFESSIONAL ENGINEER ★ No. 44135 ★ STATE OF FLORIDA

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 04/03/08

NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
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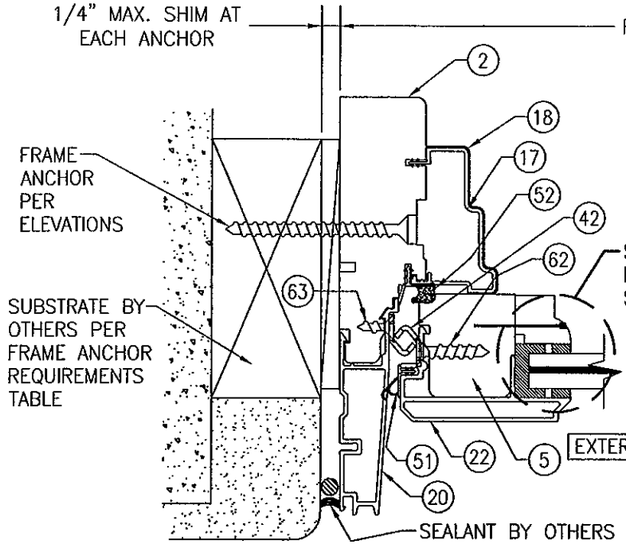
PHONE: 561-744-3424

MANUFACTURER
MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
800-346-5044

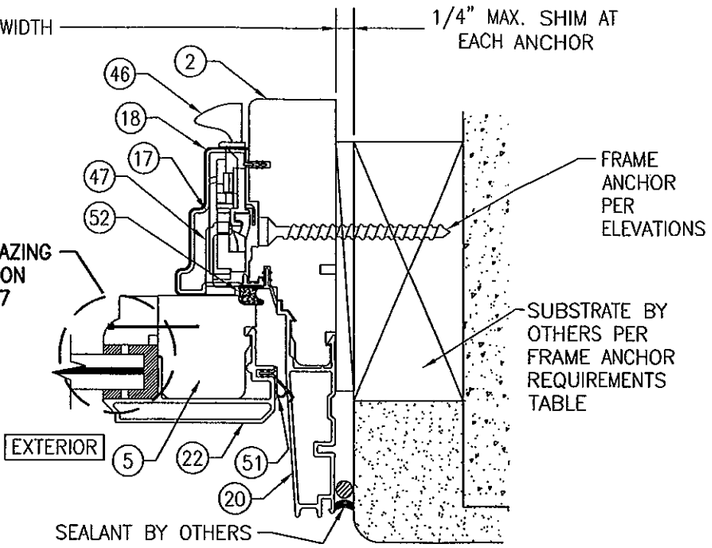
CERTIFICATION
OCT 14 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1535 | REV. A
SHEET NO. 4 OF 9



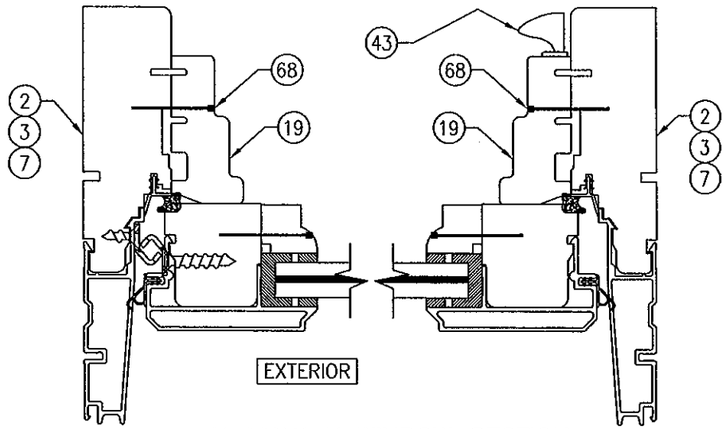
SECTION B1/5
SCALE: 1/2 FULL

(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON THIS SHEET)

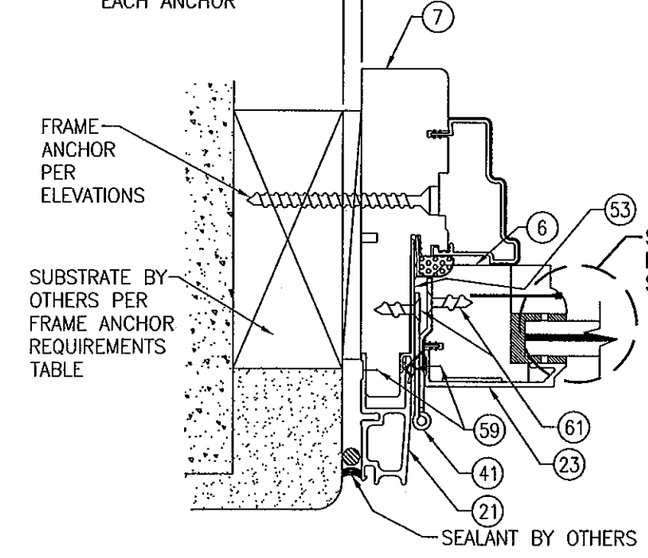


SECTION C1/5
SCALE: 1/2 FULL

(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON THIS SHEET)

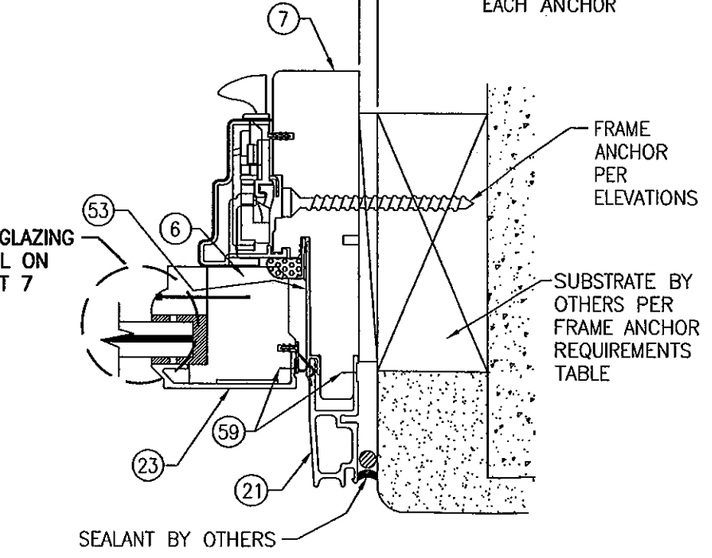


ALTERNATE WINDOW SECTION
(APPLICABLE WHEN CAMLOCKS ARE USED)
(FOR DETAIL NOT SHOWN; SEE OTHER SECTIONS)



SECTION B2/5
SCALE: 1/2 FULL

FOR DETAILS NOT SHOWN SEE SECTION B1/5
(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON THIS SHEET)



SECTION C2/5
SCALE: 1/2 FULL

FOR DETAILS NOT SHOWN SEE SECTION C1/5
(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON THIS SHEET)

PRODUCT REVISED
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Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Miami Dade Product Control

WARREN W. SCHAEFER LICENSE No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
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NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

MANUFACTURER
MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
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CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
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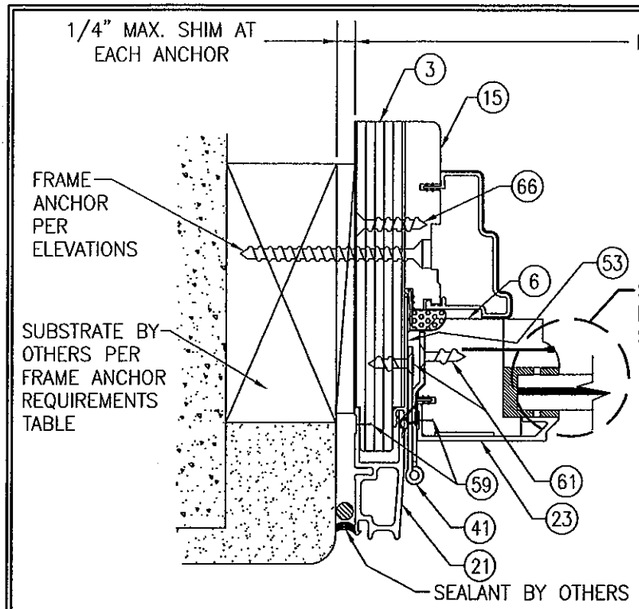
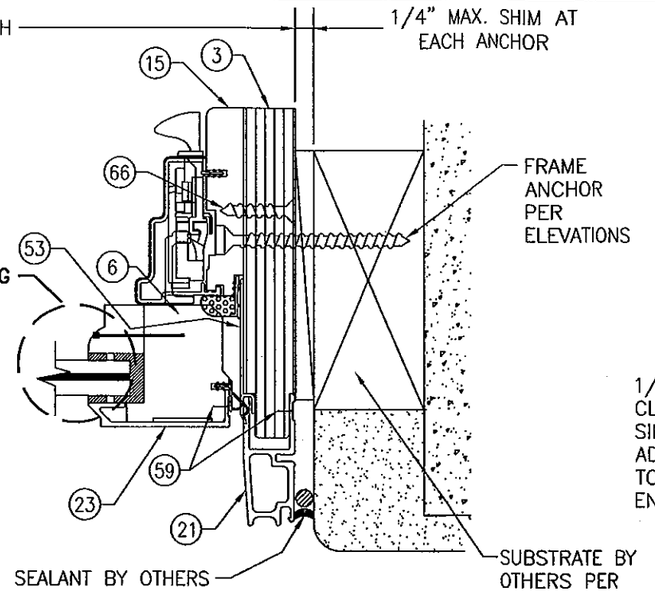
CERTIFICATION
OCT 14 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1535
REV. A
SHEET NO. 5 OF 9



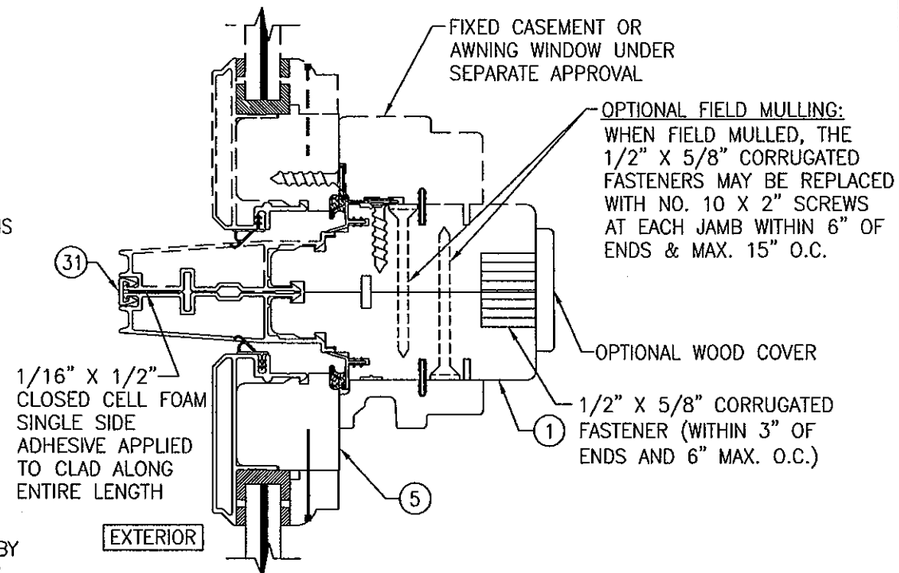
SECTION B3 / 6
SCALE: 1/2 FULL

FOR DETAILS NOT SHOWN SEE SECTION B1/5
(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON SHEET 5)



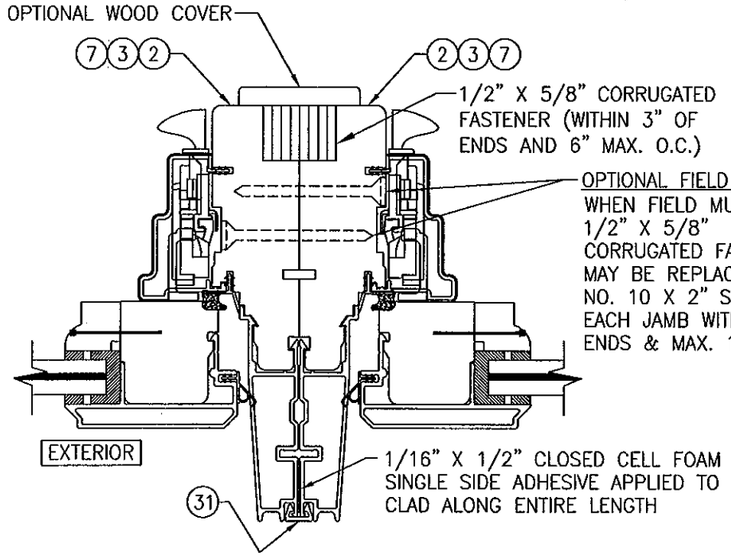
SECTION C3 / 6
SCALE: 1/2 FULL

FOR DETAILS NOT SHOWN SEE SECTION C1/5
(MULTI-POINT SASH LOCK CONDITION SHOWN; FOR CAMLOCK CONDITION SEE ALTERNATE WINDOW SECTION ON SHEET 5)



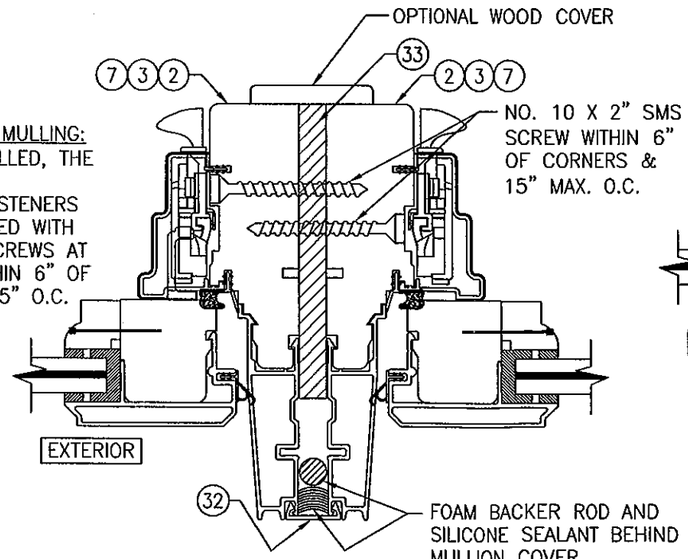
SECTION D / 6
SCALE: 1/2 FULL

FOR DETAILS NOT SHOWN SEE OTHER SECTIONS



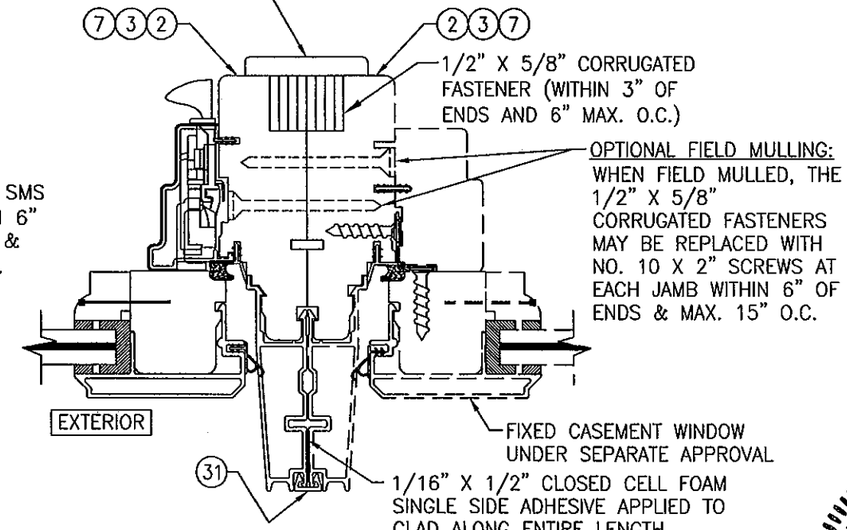
SECTION E1 / 6
SCALE: 1/2 FULL

(NON-REINFORCED MULLION)
(FOR DETAILS NOT SHOWN SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE JOINED THE SAME)



SECTION E2 / 6
SCALE: 1/2 FULL

(REINFORCED MULLION)
(FOR DETAILS NOT SHOWN SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE JOINED THE SAME)



SECTION F1 / 6
SCALE: 1/2 FULL

(NON-REINFORCED MULLION)
(FOR DETAILS NOT SHOWN SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE JOINED THE SAME)

PRODUCT REVISED complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Manuel Perez
Miami Dade Product Control

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 04/03/08

NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

MANUFACTURER
MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
800-346-5044

CONSULTANTS
WARREN W. SCHAEFER ENGINEERING CONSULTING, P.A. (CA 6809)
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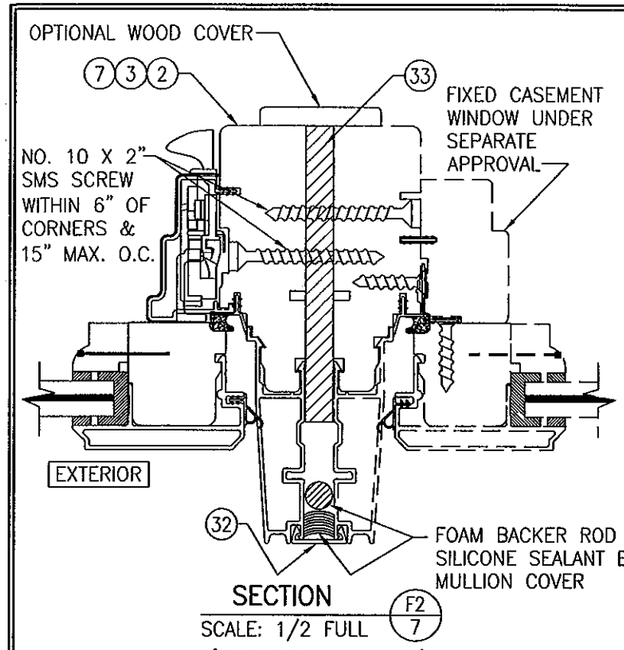
CERTIFICATION
WARREN W. SCHAEFER No. 44185 STATE OF FLORIDA PROFESSIONAL ENGINEER
OCT 14 2011

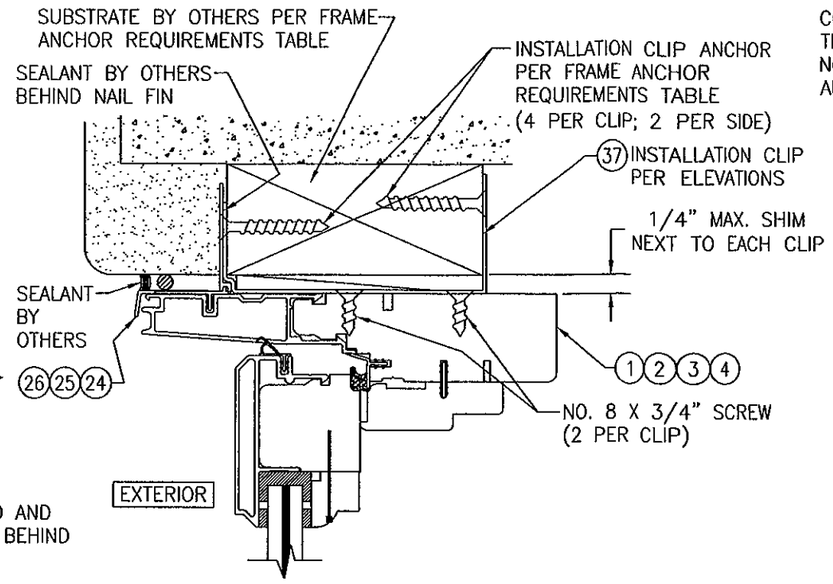
DRAWING NO. 1535 | REV. A
SHEET NO. 6 OF 9



SECTION F2/7
SCALE: 1/2 FULL

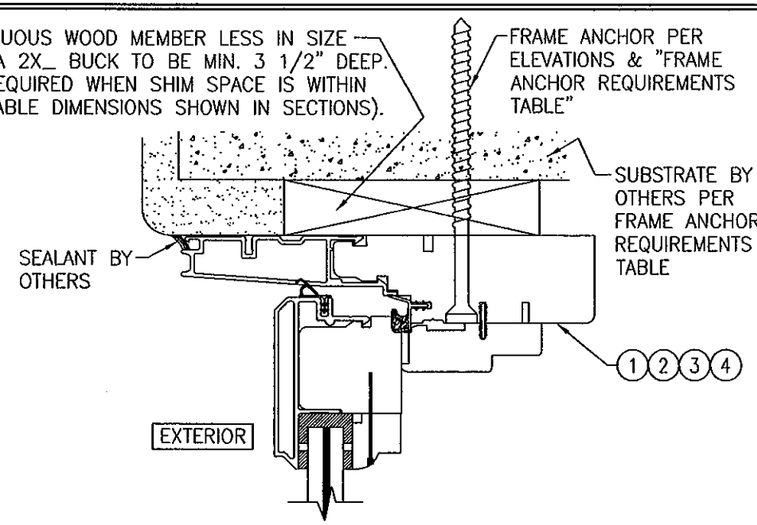
(REINFORCED MULLION)

(FOR DETAILS NOT SHOWN SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE JOINED THE SAME)



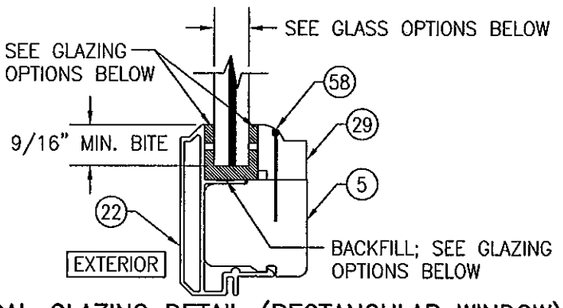
OPTIONAL INSTALLATION CLIP DETAIL

(HEAD SECTION SHOWN, SILL & SIDES ARE INSTALLED THE SAME)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE INSTALLED THE SAME)

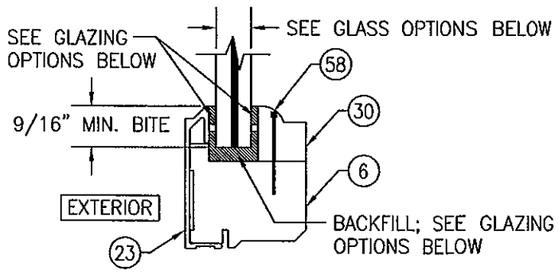


OPTIONAL DIRECT MOUNT DETAIL TO SUBSTRATE WITH SPACER

(HEAD SECTION SHOWN, SILL & SIDES ARE INSTALLED THE SAME)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)
(RECTANGULAR WINDOW CONDITION SHOWN; SHAPED WINDOW CONDITIONS ARE INSTALLED THE SAME)



TYPICAL GLAZING DETAIL (RECTANGULAR WINDOW)



TYPICAL GLAZING DETAIL (SHAPED WINDOW)

GLASS OPTIONS

GLASS OPTION A: 9/16" THICK LAMINATED GLASS (1/4" AN./0.09" DUPONT SG/1/4" AN.)
GLASS OPTION B: 9/16" THICK LAMINATED GLASS (1/4" HT.ST./0.09" DUPONT SG/1/4" HT.ST.)
GLASS OPTION C: 3/8" THICK LAMINATED GLASS (5/32" AN./0.090" DUPONT SG/5/32" AN.)

GLAZING OPTIONS

GLAZING OPTION A: POLYOLEFIN FOAM WITH ACRYLIC ADHESIVE GLAZING TAPE AT EXTERIOR & INTERIOR WITH DOW 995 BACKFILL
GLAZING OPTION B: GE RAPID STRENGTH EXTERIOR, INTERIOR & BACKFILL

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date 10/14/2014
By Miami Dade Product Control

WARREN W. SCHAEFER LICENSE No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	REVISION DESCRIPTION	BY	DATE

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 04/03/08

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
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MANUFACTURER
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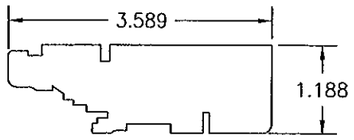
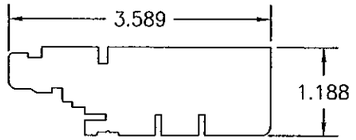
CERTIFICATION
OCT 14 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

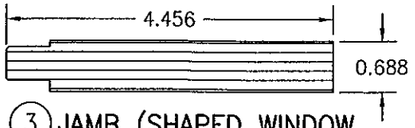
DRAWING NO. 1535 | REV. A
SHEET NO. 7 OF 9



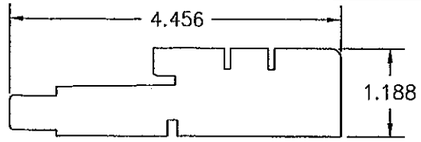
1 JAMB (RECTANGULAR WINDOW HEAD & SILL)



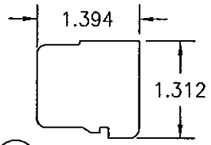
2 JAMB (RECTANGULAR WINDOW SIDE)



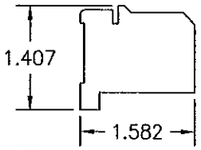
3 JAMB (SHAPED WINDOW HEAD/SIDE)



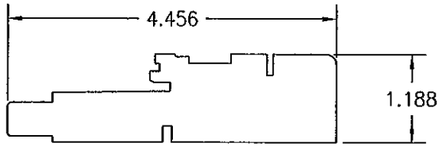
4 JAMB (SHAPED WINDOW SILL)



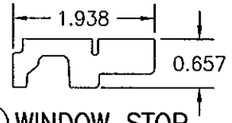
5 SASH (RECTANGULAR WINDOW)



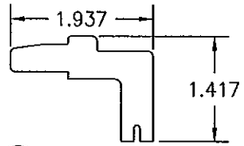
6 SASH (SHAPED WINDOW)



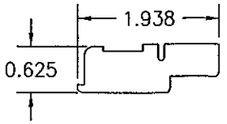
7 JAMB (SHAPED WINDOW SIDES)



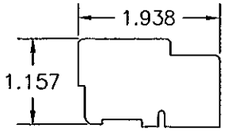
9 WINDOW STOP (RECTANGULAR WINDOW HEAD)



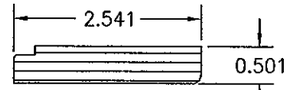
10 WINDOW STOP (RECTANGULAR WINDOW SILL)



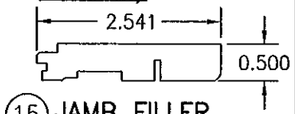
11 WINDOW STOP (RECTANGULAR WINDOW HEAD)



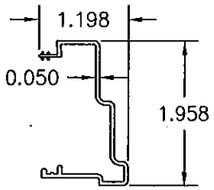
13 WINDOW STOP (SILL)



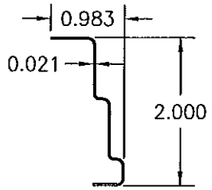
14 JAMB FILLER (HEAD)



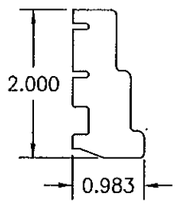
15 JAMB FILLER (SIDE JAMB)



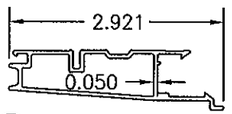
17 WINDOW STOP (SIDE JAMB)



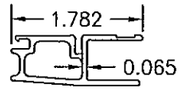
18 WINDOW STOP SKIN (SIDE JAMB)



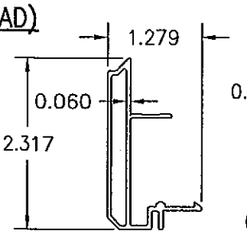
19 WINDOW STOP (SIDE JAMB)



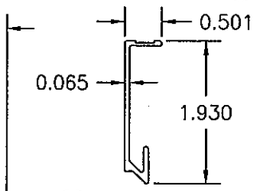
20 JAMB CLADDING (RECTANGULAR WINDOW)



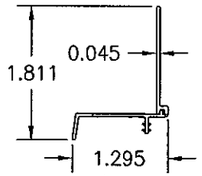
21 JAMB CLADDING (SHAPED WINDOW)



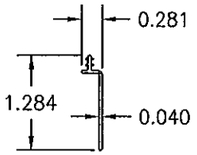
22 STILE & RAIL CLADDING (RECTANGULAR WINDOW)



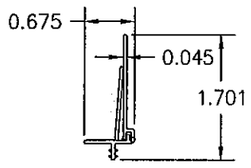
23 STILE & RAIL CLADDING (SHAPED WINDOW)



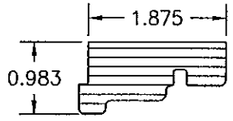
24 NAIL FIN (RECTANGULAR HEAD)



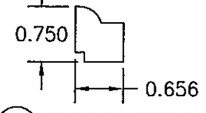
25 NAIL FIN



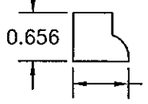
26 NAIL FIN (SHAPED HEAD)



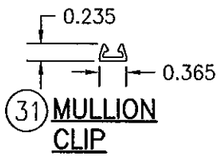
27 WINDOW STOP (SHAPED WINDOW)



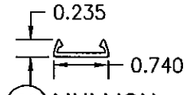
29 GLASS STOP (RECTANGULAR UNITS)



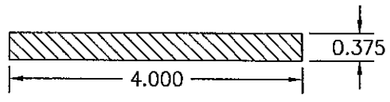
30 GLASS STOP (SHAPED UNITS)



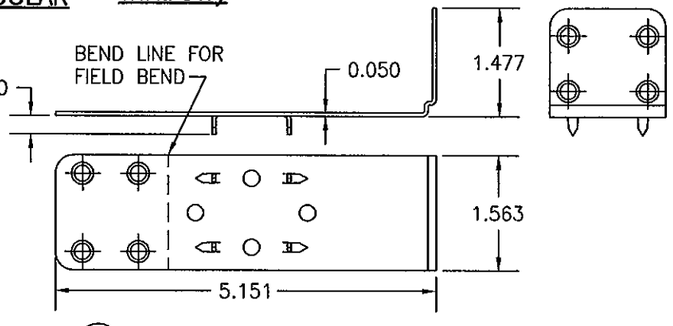
31 MULLION CLIP



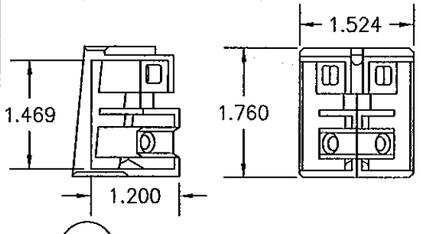
32 MULLION CLIP



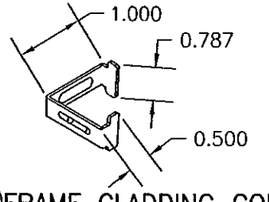
33 MULLION REINFORCEMENT PLATE



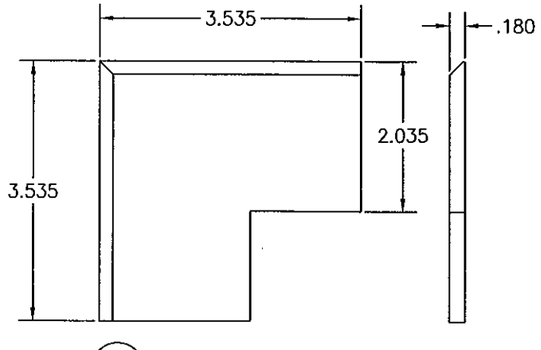
37 INSTALLATION C-CLIP



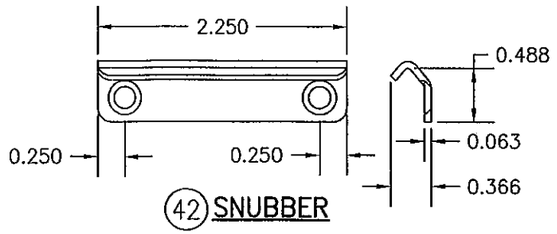
37A FRAME CLADDING CORNER KEY (RECTANGULAR WINDOWS)



37C FRAME CLADDING CORNER KEY (SHAPED WINDOWS)



37B SASH CLADDING CORNER KEY



42 SNUBBER

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Miami-Dade Product Control

WARREN W. SCHAEFER LICENSE No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER

NO.	REVISION DESCRIPTION	BY	DATE

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 04/03/08

DRAWING TITLE
CLAD CASEMASTER CASEMENT STORMPLUS IZ4

MANUFACTURER
MARVIN WINDOWS & DOORS
HIGHWAY 11; P.O. BOX 100
WARROAD, MN 56763
800-346-5044

CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)
7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
PHONE: 561-744-3424

CERTIFICATION
OCT 14 2011
WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1535 | REV. A
SHEET NO. 8 OF 9

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
	PARTS	
1	JAMB (RECTANGULAR WINDOW HEAD & SILL)	* WOOD
2	JAMB (RECTANGULAR WINDOW SIDES)	* WOOD
3	JAMB (SHAPED WINDOW HEAD/SIDE)	* WOOD (LVL AT 1/4 & 1/2 ROUND; FINGER JOINTED AT EYE BROW SHAPES
4	JAMB (SHAPED WINDOW SILL)	* WOOD
5	SASH (RECTANGULAR WINDOW)	* WOOD
6	SASH (SHAPED WINDOW)	* WOOD
7	JAMB (SHAPED WINDOW SIDES)	* WOOD
9	WINDOW STOP (RECTANGULAR WINDOW HEAD)	* WOOD
10	WINDOW STOP (RECTANGULAR WINDOW SILL)	* WOOD
11	WINDOW STOP (RECTANGULAR WINDOW HEAD)	* WOOD
13	WINDOW STOP (SILL)	* WOOD
14	JAMB FILLER (SHAPED WINDOW HEAD)	* WOOD (LVL AT 1/4 & 1/2 ROUND; FINGER JOINTED AT EYE BROW SHAPES
15	JAMB FILLER (SIDE JAMB)	* WOOD
17	WINDOW STOP (SIDE JAMB) USED WITH MULTI-POINT SASH LOCK CONDITION	VINYL
18	WINDOW STOP SKIN (SIDE JAMB) USED WITH MULTI-POINT SASH LOCK CONDITION	WOOD VENEER
19	WINDOW STOP (SIDE JAMB) USED WITH CAMLOCK CONDITION	* WOOD
20	JAMB CLADDING (RECTANGULAR WINDOW)	6063-T5 ALUMINUM
21	JAMB CLADDING (SHAPED WINDOW)	6063-T5 ALUMINUM
22	STILE & RAIL CLADDING (RECTANGULAR WINDOW)	6063-T5 ALUMINUM
23	STILE & RAIL CLADDING (SHAPED WINDOW)	6063-T5 ALUMINUM
24	NAIL FIN (RECTANGULAR HEAD)	6063-T5 ALUMINUM
25	NAIL FIN	6063-T5 ALUMINUM
26	NAIL FIN (SHAPED HEAD)	6063-T5 ALUMINUM
27	WINDOW STOP (SHAPED WINDOW HEAD)	LVL
29	GLASS STOP	* WOOD
30	GLASS STOP	* WOOD
31	MULLION CLIP	6063-T5 ALUMINUM
32	MULLION CLIP	6063-T5 ALUMINUM
33	MULLION REINFORCEMENT PLATE	6061-T6 ALUMINUM
37	INSTALLATION C-CLIP	50 KSI GALV. STEEL
37A	FRAME CLAD CORNER KEY (RECTANGULAR WINDOWS)	NYLON
37B	SASH CLADDING CORNER KEY	5052 ALUMINUM
37C	FRAME CLAD CORNER KEY (SHAPED WINDOWS)	6063-T1 ALUMINUM
	HARDWARE	
38	OPERATOR WITH HANDLE	TRUTH-SERIES 15 DUAL ARM OPERATOR MW ZINC HANDLE MW PLASTIC HARDWARE COVER
40	SCISSOR HINGE	10" LONG. S.S. THRUTH 13-16-00-119 (LEFT) THRUTH 13-16-00-120 (RIGHT)
41	BUTT HINGE	304 S.S.; MARVIN #10929105
42	SNUBBER	50 KSI STEEL
43	CAMLOCK	TRUTH #16-18
44	ROLLER TRACK	TRUTH SERIES 30706
45	SASH LIMITER	MARVIN #15808598
46	MULTI-POINT SASH LOCK	TRUTH #16-18
47	SASH LOCK KEEPER	TRUTH #31359

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
	PARTS	
	SEALS & SEALANTS	
51	SASH WEATHERSTRIP	RIGID GLASS FILLED POLYPROPOLENE BY INTEK
52	VINYL FRAME WEATHERSTRIP	BY AMSBURY
53	THERMAL BREAK	BY AMSBURY
54	CONNECTING BARB	PVC & GEON C70a0
	MISC. FASTENERS	
58	F-18 x 1.125" BRAD NAIL	3" FROM CORNERS & MAX. 8" O.C.
59	GSN 18 X 1/2" S.S. STAPLE	3" FROM CORNERS & MAX. 6" O.C.
61	NO. 10-32 FH MACHINE SCREW	4 PER HINGE
62	NO. 8 X 1" SMS	2 PER SNUBBER
63	NO. 7 X 1/2" SMS	2 PER SNUBBER
66	NO. 8 X 1" SMS	2" FROM ENDS & 5" TO 8" O.C.
67	NO. 6 X 1" TRIM HEAD WOOD SCREW	2" FROM ENDS & 5" TO 8" O.C.
68	F-14 x 1 3/8" BRAD NAIL	2" FROM ENDS & 4" TO 6" O.C.

* ALL WOOD USED WITH TESTED UNITS IS MIN. GRADE 2 WESTERN PINE. ALTERNATE WOOD SPECIES TO PINE SHALL BE MIN. GRADE 2 WITH "E" = 1200000 PSI MIN. & "G" = 0.43 MIN

NOTE: ALL WOOD IS RECEIVED BY MARVIN WINDOWS & DOORS AS GRADE 2, BUT IS MACHINED BY MARVIN TO A SELECT GRADE USE.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 11-1021.12
Expiration Date March 4, 2014
By Manuel Perez
Miami Dade Product Control

WARREN W. SCHAEFER LICENSE No. 44135 STATE OF FLORIDA PROFESSIONAL ENGINEER

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SHEET NO. 9 OF 9